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October 6, 1998

Secretary,
Federal Communications Commission
1919 M. St. N.W.
Washington, DC 20554

Ref: MM Docket No. 98-93, 98-117

Please accept these comments to the above referenced proceedings.

Sincerely,

Douglas L. Vernier

President

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List A B C D E

Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of

The 1998 Biennial Regulatory Review—	)
Streamlining of Radio Technical Rules in	) MM Docket No. 98-93, 98-117
Parts 73 and 74 of the Commission's Rules	)

Comments Filed by:
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V-Soft Communications designs broadcast propagation software for mapping radio and TV station coverage and interference and for preparing the required exhibits for FCC applications. V-Soft Communications contains a broadcast technical consulting unit that provides consultative assistance for solving broadcasting engineering problems. The information put forth in this document is in response to the Commission's request for comments under MM Docket 98-93, "Streamlining of Technical Rules in Parts 73 and 74 of the Commission's Rules,"

We applaud the Commission's efforts to streamline the rules to provide new flexibility to the broadcast community. Docket MM 98-93 suggests many changes which will have that affect, however the Commission remains concerned (and rightly so) about the short and long term impact of the proposed rules. Since many of the docket's proposals may affect "equitable service" and may allow an increased amount of interference, the options need to be carefully examined. We think that any interference should be avoided but balanced against service some increase of interference may be the public interest.

Negotiated Interference:

The Commission seeks comments on whether it should amend Section 73.215(a) and 73.509 to permit applications that would result in prohibited overlap. We think that the four criteria outlined on page #10 of the docket are appropriate. We believe the proposed restrictions will serve to protect the

integrity of local service and at the same time give broadcasters a moderate amount of additional flexibility.

Since there are fewer educational stations than commercial stations, loss of service of any given station may have a larger and more significant impact. We feel that any service floor that is applied to non-commercial educational broadcasters should be balanced against non-commercial service, not commercial service, with the goal of restricting the creation of new white or gray NCE areas.

We agree with the Commission's conclusion that form 301 (or 340 for NCE operators) should be modified to require an applicant's certification to the negotiated interference standards. It would be appropriate for the Commission to provide a supplemental form that will detail the responses and exhibits required for such certification.

We note that the Commission proposes to assign all new construction permits as 73.215 proposals. We support this notion, knowing that it could restrict the flexibility these stations have to move to new transmitter sites. The Commission has a history of successful NCE band regulation where protection is afforded to the actual service contour. It makes sense to us that expansion of contour protection though new licensing can work without creating new interference.

Regarding the proposal to amend Section 73.509 to prohibit second and third-adjacent channel NCE stations from proposing transmitter sites within an affected station's 63 dBu contour. We do not support this restriction, since all stations that participate in negotiated interference must agree to it, it seems to us inappropriate to deny two stations the ability to improve their facilities. This proposal also assumes that all stations have transmitters "deep" within the community of license, which is not true. There may, in fact, be a very good reason to approve such interference if it meets other criteria and falls outside a highly populated area yet within the 63 dBu contour.

We support the Commission's proposal to allow all applicants to improve facilities by receiving second or third adjacent interference without negotiation as long as the negotiated interference criterion are met and no interference would be caused to the service contour of any other station. The exception to this would be short-spacing to another station not conditioned as 73.215 when permission from the station would be required. It is important that the Commission adhere to its standard of no more than five percent (received) interference in these cases. Since such operation may reduce the flexibility to move the transmitter site of the station causing the interference, we suggest that the Commission require the station wishing to receive interference to notify the station causing the interference at the time of filing the application. This notification would be in addition to the issuance of the Commission's traditional public notice.

The Commission also seeks comment on whether it should follow the methodology adopted in the recent grandfathered short-spaced FM station proceeding to determine the areas of interference using the desired-to-undesired signal strength ratio analysis and the standard propagation curves. While, for the sake of accuracy, we support using the D/U ratio method over the standard overlapping contour method, we think that the Commission needs to develop a more sophisticated approach to determining whether interference exists. The PTP method (when modified) will partially meet this requirement. However, considering that quality signal FM listening may be at risk by these proposals, we believe it is time for the Commission to develop a contemporary approach. Many of the current assumptions of D/U ratios are built upon outdated studies of receiver sensitivity and selectivity. We think it is time for the Commission to establish a base line for modern receiver performance. New studies are in order that would also consider the future needs of digital radio transmission.
We think that, when it comes to interference signal projection, the Commission's current method of predicting interference is inadequate. (More on methods under P.T.P.)

We believe that the Commission's "no waiver" policy with regard to Section 73.207 minimum distances is too severe. For example, we have experienced cases where an antenna move was rejected that would have changed a station's antenna from one tower to another 300 feet away on the same antenna farm because it caused a shortspace.[1] This kind of blind adherence to the "no waiver" policy is inappropriately harsh on the broadcaster. We recommend that the Commission be open to the consideration of waivers with a minimum 600 foot leeway (or approximately 6 seconds after rounding.)

We applaud the Commission's offer to publish decisions that explain or clarify the new procedures. In this regard, we urge the Commission to enhance its technical computer databases by adding information on existing class A and new negotiated shortspace situations. Continuing to update this information would provide the user with a way, at some future date, of sorting out hundreds of stations that neither meet the Commission's minimum spacings rules nor qualify under section 73.215. This additional information will be vital to expanded computerization methods that will be required.

With regard to a broader perspective, we feel that the listener will benefit more from the proposal than not. It seems to us that the four stated negotiated interference criteria are designed to protect the listener. It is possible that new opportunities for "move-ins" may come out of these proposed rules, yet, we believe there are ample safeguards built in to the criteria so that small communities will not lose their service.

[1] In this particular case use of Section 73.215 would have required a power reduction of nearly 50 percent consequently omitting contour protection as a viable option.

We see no reason to consider agreements between NCE stations differently than between commercial stations. The Commission may also want to consider the possibility of an agreement between an NCE station and a commercial station, since such agreements will be likely for the six channels between channel 218 and channel 223. We think a standard agreement will satisfy all parties involved.

From what we have learned regarding the IBOC testing that has already gone on, interference from strong co and first-adjacent channels can be very disruptive. Until broadcasters agree on a system, we can only assume that any new interference will have a detrimental effect on the development of digital radio transmissions. As we have already stated, we feel the Commission should take a stronger role in the development of D/U standards for both conventional and digital radio broadcasts.

There is a danger that the many elements of the Commission's negotiated interference proposal will reduce a station's flexibility to move its transmitter to a new location. The broadcaster who uses Section 73.215 or the proposed negotiated interference rules should be made fully aware of the potential consequences. Loss of future transmitter site flexibility by the applicant will have to be balanced against new service that will result. We think that it should be the Commission's responsibility to provide information to the public that will outline the dangers involved.

We support a tough approach to enforcing rules with regard to negotiated interference. It is incumbent upon Commission engineers to fully confirm the proposals before approving them. The Commission should not be hesitant to rescind approval in the event it finds an applicant has misrepresented the facts in some manner. The Commission should make all possible efforts to require compliance with the terms of any negotiated interference agreement... including revoking licensees if misrepresentations are made.

The Point to Point method:

As stated, we believe the FCC's standard method for determining the distance to a signal contour is outdated. Since the entire path between a transmitter and receiver has an effect on the signal, using only a portion of the path will produce errors that will result in overly severe protection. For FM, the Commission uses only the portion of the path from 3 to 16 kilometers from the transmitter. A large hill or mountain beyond 16 kilometers will be completely missed, therefore, we support a prediction method (such as the P.T.P.) that considers the entire path. However, we have concerns about the implementation of any new method without looking at the existing rules for exceptions that cause interference rather than protect a station from interference.[2]

[2] For example, as long as a commercial station meets the required distance spacings it may operate at the maximum combination of power and antenna height for its class. If the station's transmitting antenna is up against a mountain, a negative HAAT toward the mountain becomes a part of the average, therefore

Our analysis indicates that the proposed P.T.P. method should be altered to correct certain inaccuracies before it is adopted in its final form. We have found several instances when using the Commission's P.T.P. FORTRAN code where the interference signal contour actually traveled farther for a lower E.R.P. than a higher E.R.P. with the antenna height and path being held constant. In examining the code we find that the problem stems from the curve fitting routine, because the program attempts to fit the entire curve and not a pertinent window along the radial. We have also found circumstances where the change in power of a watt or two results in a change in the predicted signal contour of ten or twenty kilometers. While this may be consistent with a curve fitting and point extraction methodology, it is not consistent with reality.

Consequently, we support a method such as the P.T.P. however we think that without modification the method currently envisioned by the Commission is not the answer. We, have concerns about any interference prediction method that attempts to simplify the prediction of the location of interference by fitting a curve to calculate a single signal value. Knowing that the signal along any given radial from a transmitter can reach a given value more than once, we believe a more accurate method would be achieved by using the DTV Longley-Rice model where each square kilometer is interrogated. This model, while being more difficult to implement, will result in greater accuracy.

We support allowing the use of a revised PTP method to determine the 3.16 mV/m signal and compliance with the main studio requirements.

Reduced Minimum Separation Requirements for Second and Third Adjacent Channel Stations:

We support revisions to the Section 73.215(e) minimum distance shortspacing table to reduce the distances by the suggested 6 km. Such an action puts the commercial shortspacing rules more in line with those that have been used successfully in the NCE band for many years and it increases a broadcaster's flexibility to move a transmitter to an available site.

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reducing the average antenna height in the good direction. This results in stations having larger than class antenna heights and powers combinations and larger consequent coverage areas in directions opposite the mountain or obstruction. The result can often be interference since the Commission's spacing tables are based on the assumption that all stations will have approximately equal signals in all directions. This error could be mitigated if the Commission were to remove radials from the average that were negative or below a certain cut-off from the average antenna height calculation, just as it removes radials that are totally over water and that travel outside the U.S. borders.

New Class C Height Above Average Terrain Requirements:

We strongly support the Commission's proposal to create a new C0 class. This would make possible a more efficient use of the spectrum rather than protecting class C stations that have made no effort to improve facilities to other than the minimum for the class. Since there is a significant coverage difference between a minimum class C and a maximum facility, a large amount of spectrum is wasted by protecting minimum facilities. Such spectrum could be put to better use. The use of a "buffer zone" will give existing class C stations enough time and protection to plan an upgrade. The "buffer zone" procedure is consistent with the Commission's practices when the C1 class was created.

Streamlined Application Processing Changes:

We support the Commission's proposal to extend "first come first serve" to AM, NCE FM and FM translator minor change applications. We also believe that translator stations that are forced to change channels by full service stations should be considered as minor change applications regardless if the channel has been changed. This would prevent a displaced translator applicant from being shut out on a new channel by another conflicting translator application for the same channel.

Revisions of the Definition of "Minor" Change in AM, NCE FM and Translator Services

We support redefining a "minor change" for AM, NCE FM and FM translators to conform to the commercial FM "minor change" definition.

However, we are concerned many stations will rush to maximize their facilities only to be first, so as to assure their grant. This will result in a glut of applications to the Commission and in the "warehousing" of upgrade proposals. To counteract "wearhousing" the Commission will need to be more diligent in enforcing the construction permit renewal regulations. We think that, under any circumstances, 18 months plus one six-month extension should be set as the absolute limit.

Coordinate Corrections by Single Application for Licensed Stations:

We support the proposal to allow the use of a single license application to correct coordinates up to three seconds or to apply for a power reduction of a booster or translator.

Second-Adjacent Channel Ratios for Predicting Prohibited Overlap in the Reserved Band:

We are inclined to support the use of the 100 dBu signal contour as the interfering signal strength for both the second and third adjacent channels.

However, we feel that in order be fully confident, the Commission should confirm the impact on NCE broadcasters of new second adjacent interference through the application of a scientific study using an appropriate sampling of modern receivers.

Minimum Coverage Over the Community of License:

Requiring that a least a portion of the community of license for an NCE station be served by the 60 dBu also seems reasonable. This rule should also be carried over to the FM translator rules where no such minimum service standard exists. Perhaps the 50 dBu should be used for translators. This would eliminate the licensing of spurious translators that have no way of reaching the community of license with an adequate signal to be heard above the noise floor.

Revisions to Class D Rules:

We oppose the proposal that would require a class D station to move to a second or third adjacent NCE channel in the event it could not identify an interference free channel. It is a bad idea to exclude the commercial second and third adjacent channels from this requirement. There are 80 additional channels in the commercial band that could rightly be used. On the average, the commercial band FM stations transmit with higher power than the NCE stations, therefore, as a whole, they are less susceptible to the impact of interference than the NCE stations.

Otherwise we support the rule changes being proposed and note that many of these rules are already implemented in staff policy.

Finally, we thank the Commission for the opportunity to submit these comments on behalf of V-Soft Communications/Doug Vernier Telecommunications Consultants.